

9-1-2011

# Wayne State Startup Company Working To Advance Biofuels

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### Recommended Citation

Staff, Editorial (2011) "Wayne State Startup Company Working To Advance Biofuels," *New Science*: Vol. 19: Iss. 1, Article 20.  
Available at: <http://digitalcommons.wayne.edu/newscience/vol19/iss1/20>

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# Wayne State startup company working to advance biofuels

NextCAT, Inc. is working to advance a biofuel catalyst technology developed at the National Biofuels Energy Lab at Wayne State University.

A recent license agreement is allowing NextCAT to commercialize a class of catalysts that enable biodiesel producers to use cost-effective raw materials such as waste vegetable oil, animal fats and residual corn oil, and convert them into biodiesel. This technology offers a unique process solution for an industry that has been mostly idled in the United States since 2008, when rising feedstock prices rendered the production of biodiesel uneconomical. With a cost savings of at least \$1 per gallon over traditional diesel fuel, the NextCAT solution greatly changes the economics of a biodiesel plant.

With secured seed funding from Automation Alley and the Michigan Pre-Seed Capital Fund, NextCAT is designing, building and installing a pilot reactor at an engineering center of a biodiesel equipment manufacturer. With this investment, along with other investments and grant funding, including awards from the National Science Foundation (NSF), NextCAT has received more than \$800,000 to bring this technology to market. Additional funding from NSF looks promising for the project, "Heterogeneous Catalyst for the Economical Production of Biodiesel from High Free Fatty Acid Feedstock." This Small Business Innovation Research (SBIR) Phase II project proposes a potentially viable solution for many financially stressed biodiesel producers. Producers will simultaneously be able to use low cost feedstock and greatly simplify the biodiesel production

process. In addition, currently idled facilities will be able to produce biodiesel fuel that will be cost competitive with petroleum diesel and help meet anticipated global market demand of approximately 8 billion gallons of biodiesel by 2015, along with adding jobs in economically depressed areas of the United States and bringing the nation closer to energy independence.

In addition to the cost and energy savings associated with biodiesel fuel, there are several advantages that make it a smart choice to manufacture and use. Biodiesel is nontoxic and biodegradable and therefore is environmentally safe. Advanced biofuels, in general, are produced domestically, thus lessening dependence on foreign oil. Also, producing advanced biofuels can stimulate the local economy through job creation in farming, transportation and production.

"The science team of Dr. Steven Salley, associate professor of chemical engineering, College of Engineering; Dr. Shuli Yan, research director at NextCAT; and I are excited to see our technology progressing toward usage by the biodiesel producers, and we look forward to a successful production demonstration in the near future," said Simon Ng, Ph.D., chief technology officer at NextCAT, interim associate dean for research in Wayne State's College of Engineering and the technology's co-inventor.

"The NextCAT technology offers an exciting alternative to the current biodiesel fuel production



## NextCAT

*Enabling the Next Generation of Biodiesel*

process," said Hilary Ratner, Ph.D., vice president for research and dean of the Graduate School at Wayne State University. "With this license agreement in place, NextCAT can now take the technology to the next level and ultimately make a major impact on our environment as well as our economy."

**To learn more about NextCAT, Inc., visit**  
<http://nextcatinc.com/>

